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Josh Mitchell

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EXAMINER

THAKUR, VIREN A

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/721,583	Applicant(s) MITCHELL ET AL.	
	Examiner VIREN THAKUR	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-10,12,15-19,22,24,33-41 and 66-72 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10,12,15-19,22,24,33-41 and 66-72 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 25, 2008 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 10 recites the limitation "transport vehicle." It is not clear as to how the term vehicle is used. That is, is a vehicle similar to a transport mechanism that moves the totes into a washing tank?

Claim Rejections - 35 USC § 103

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. **Claims 1,2,4, 5,7, 16-19, 22, 68,69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown (US 20030126850 A1) in view of Brown et al. (US 6298865), Garcia, Jr. et al. (US 6626192), Tarantino et al. (US 20040187465 A1), Mitchell et al. (US 6112429), Cress et al. (US 6223502) and Levey et al. (US 5566695).**

Regarding claim 1, Brown '850 teaches cutting and then removing the core from lettuce heads (paragraph 0005 and 0009) and placing the de-cored lettuce into a tote/container (paragraph 0011, 0050), with the lettuce being washed while in the tote/container. Regarding the flow of the washing fluid for cleaning the de-cored lettuce, Brown '850 teaches nozzles arranged in rows or any arrangements above and below the container so that the spray sprays both upward and downward (paragraph 0042 and

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0043). In paragraph 0050, Brown '850 teaches that the sap is allowed to drain from the bottom of the tote as well. This teaches that nozzle sprays from above and below would thus flow through the de-cored end of each product, since the lettuce is positioned to allow for draining of the sap from the bottom of the tote. It is noted that Garcia Jr. et al. also teach removing the core for easier cleaning of lettuce (column 4, line 64 to column 5, line 10). Tarantino et al. also teach removing the core and retaining the whole head nature of the lettuce (paragraph 0046). Regarding the positioning, Brown '850 teaches that the de-cored products are facing a first side of the tote. It is noted that the claim is not specific as to what side of the tote the decored end can face. Clearly since Brown '850 teaches loading de-cored lettuce into totes, it would have been obvious that a plurality of de-cored lettuce would have been placed into the totes. The nozzles for cleaning the de-cored lettuce can be in rows but the figures are not clear as to the particular arrangement of the de-cored lettuce within the totes.

The claim thus differs from Brown '850 art in reciting that the plurality of products are placed in a first row of the tote with de-cored ends of the product in the first row facing a first side of the tote. The de-cored ends would inherently have faced a side of the container, such as the bottom of the container for the purpose of positioning the de-cored product to exude the sap, prior to washing, as discussed above. Brown '850 does not explicitly teach placing the de-cored products into a row. Nevertheless, Brown et al. '865 teaches wherein the de-cored lettuce are all aligned in a row and correspond to the spray nozzles, also aligned in a row, for the purpose of cleaning the decored lettuce (column 2, lines 35-42). In addition, Mitchell et al. teaches that it has been

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conventional in the art to place de-cored produce into a container in rows, as shown in figure 2B. Mitchell et al. also teach washing the lettuce while in rows, as shown in figure 9B. It is further noted that Brown '850 teaches that the nozzles that are used to wash the de-cored produce are aligned in a row (Paragraph 0043). Garcia Jr. is cited as further evidence that it was conventional to align de-cored lettuce heads (column 4, line 64 to column 5, line 10) for the purpose of allowing the cleaning sprays to flow through the de-cored portions. Levey et al. has been relied on as a general teaching that it was conventional to align articles in rows and face the flow of fluid for the purpose of cleaning the interior of the articles (see figure 4). To therefore align the de-cored produce into rows so as to correspond with the aligned rows of washing nozzles would have been obvious to one having ordinary skill in the art, for the purpose of providing adequate washing of the cored produce.

Regarding claims 2, Brown '850 teaches removing the core, and thus cutting off the core (Paragraph 0041). Regarding claim 5, which recites retaining the whole head nature of the product, it is noted that Brown '850 teaches trimming to only remove the core (paragraph 0041) of lettuce therefore the whole head nature of lettuce would have been retained, especially since Brown '850 teaches spraying from above and below to clean the de-cored lettuce. Brown '865 also teach cutting to remove the core of lettuce which thus retains the whole head nature. Regarding claim 7, Brown teaches removing the core, and thus another device would inherently have been used in order to remove the core.

Regarding claim 4, which recites removing and placing at a processing plant, it is

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noted that Brown '850 essentially teaches a processing plant. Applicant has not defined this limitation and therefore since Brown '850 teaches the de-coring, washing, and drying in a single location, it is noted that this location is considered a processing plant. In any case, it is noted that once it was known to perform the de-coring and then placing of the de-cored products into a tote and wash and dry within the same tote, without unloading, the particular location to perform these steps would not have provided a patentable feature over the prior art.

Regarding claims 16 and 68, Brown '850 teaches cleaning by placing the tote on a conveyor (paragraph 0014) that carries the tote through a wash tank (paragraph 0043). Regarding claims 17 and 18, it is noted that Brown '850 teaches washing the de-cored products and washing the de-cored ends. Brown '850 also teaches using a submersion tank into which the totes are conveyed (paragraph 0043). Therefore by using a submersion tank, it would have been obvious to one having ordinary skill in the art that the washing fluid in the tank would have flowed into the de-cored ends for its art recognized and applicant's intended function.

Regarding instant claim 19, Brown '850 teaches a conveyance device to carry the tote through the cleaning tank (paragraph 0042).

Claim 22 recites drying by spin drying the product in the tote. It is noted that Brown '850 already teach removing the excess water (i.e. drying) by using vibration (paragraph 0046). Mitchell et al. has been relied on to teach spin drying while the product is in the tote. To therefore

Claim 69 is rejected for the reasons given above with respect to claim 1, regarding the cutting, removing and placing. Regarding the limitation of immersing the tote into a wash tank, it is noted that Brown '850 teaches submerging the tote in the wash tank (paragraph 0043). By submerging de-cored lettuce, clearly the washing fluid would flow through the de-cored ends. Regarding the first side of the tote facing a direction of conveyance, Brown' 850 also teaches that the nozzles may be arranged in rows or any arrangement that adequately washes the trimmed produce. To therefore re-orient the produce so that the de-cored ends face a first side which is in the direction of conveyance would have been an obvious matter of design. Additionally, it is noted that in paragraph 0043, Brown '850 teaches that the totes sit on the conveyor and may move through the wash station. Brown '850 further teaches that the tote can be submerged in liquid. If the conveyor is moving in a downward direction into the submerging tank, then a face of the tote would also face a direction of conveyance (i.e. into a submerging tank).

Claim 66 recites that a first row of de-cored product is placed in the tote with the de-cored ends of the first row facing a first side and a second row of de-cored products with the de-cored ends of the products in the second row facing a second side of the tote. It is noted that the combination as applied to claim 1 already teaches spraying de-cored lettuce with a washing solution so that the solution would pass through the de-cored portions. Mitchell has been relied on to teach that it has been conventional in the art to wash two rows of produce with the flow of the washing solution flowing along the axial length of the produce. As can be seen from figure 2B, the produce is placed into

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the tote in two rows with the end of each product facing a different side of the tote. The combination as applied above, already teaches washing de-cored produce within a tote, which has a spraying solution passing through the de-cored ends. The only difference being the particular number of rows (which the combination does not clearly depict) and the particular orientation of the rows. Tarantino et al. has been further relied on to teach that it was conventional in the art to have a horizontal spray (figure 3c) for the purpose of treating both the de-cored end and the top end of whole head produce such as lettuce. To therefore modify the combination and place the de-cored lettuce into two rows, with each row facing a different side of the tote would thus have been an obvious matter of choice and/or design, since the art taken as a whole already teaches the flow of water from two opposite directions to clean the de-cored portion of whole head produce, and since the art also teaches the placement whole head produce in “horizontal” rows. It is further noted that Brown ‘850 teaches washing within a tote, and a drying type step within the same tote (paragraph 0045-0046) and then transporting the produce within the same totes using transport trucks. The reference to Cress et al. has also been cited as additional evidence of the conventionality of the concept of containers that hold items to be washed which are also dried in the same container without removal of the items. Therefore, the art taken as a whole teaches that it has been conventional in the art to process (wash, dry and transport) de-cored produce within a tote. Regarding the particular arrangement, it is noted that Mitchell et al. teaches placing into a tote in rows for the purpose of employing centrifugal drying to remove excess water. It would thus also have been advantageous to employ two rows

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in the washing and drying and transport operation so that a centrifugal drying step, as taught by Mitchell can be employed (instead of vibrational drying). To therefore modify the combination and arrange the de-cored produce in the totes of the previously applied combination into two rows, such as the totes taught by Mitchell et al., would have been obvious for the purpose of continuing to process (wash, dry and transport) within the same tote, while being able to use a centrifugal dryer.

Claim 67 recites that the flow of washing fluid is from a first flow directed to a first side and a second flow directed to a second side. It is noted that Brown '850 teaches a first and second flow directed to a first and second side of the tote (upward and downward). Mitchell et al. and Tarantino also teach flow from a first and second side (see figure 9b of Mitchell et al. and figure 3c of Tarantino et al.)

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 1,2,5,7, 16-19, 22, 66-69, above, and in further view of Herrera (US 20030217650).

Claim 6 differs from the combination of the prior art in specifically reciting wherein the device to cut out the core of the product is a stainless steel knife. Nevertheless, Mitchell et al. disclose wherein the core is removed or trimmed (Column 3, Lines 31-32). Herrera teaches a method for harvesting and coring produce such as lettuce (Paragraph 0004) using a cutting element comprised of steel or steel alloy (Paragraph 0079). Therefore, Herrera teaches that it has been well established in the art and thus would have been obvious to the ordinarily skilled artisan to use a cutting edge to

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remove the cores of the lettuce. Using a steel alloy cutting element as taught by Herrera would have provided consistency in the removal of the core from each of the lettuce heads. Although Hererra does not explicitly teach stainless steel, it would have been obvious to one having ordinary skill in the art that steel alloys encompass stainless steel. Nevertheless, in cutting food products it would have been within the knowledge of the ordinarily skilled artisan and thus obvious to the ordinarily skilled artisan to use a stainless steel cutting edge since stainless steel cutting devices do not stain, corrode or rust, thus preventing contamination to the food product being cut.

8. Claims 8-10, 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 1, 2,4, 5, 7, 16-19, 22, 66-69, above, and in further view of Hougham (US 5316778), Busta (US 3814820), Crossett (US 2666711), Bell et al. (US 1708253) and Alameda (US 5130152).

Claims 8-10 differ from the above combination in specifically reciting pre-washing the cut product prior to placing in the tote. Claim 8 recites "the cut product." It is noted that this only refers to the product after it is cut from the stalk, and not a de-cored product. Furthermore, claim 9 recites "at least one end of the product before placement in the tote." This reads on any end and not even a de-cored end. In any case, Hougham, Busta, Crossett, Bell et al. and Alameda have been relied on to teach taht the art is replete with examples of treating produce by employing more than one washing step. To therefore modify the combination and employ a pre-washing step for cleaning the produce prior to the decoring and washing, for instance, would have been

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obvious to one having ordinary skill in the art. Regarding claim 10, Brown '850 already teaches spray washing the product, as discussed above with respect to claim 1. Claim 12 is rejected for the reasons given above with respect to claim 5.

Claim 15 recites that the de-cored products are placed in multiple stacked rows on top of each other within the tote. It is noted that the claim is not specific as to whether the totes have multiple rows on top of each other through the entire processing. For instance, the claim still reads on stacking multiple rows in the tote, only upon drying. In any case, as discussed above with respect to claims 66 and 67, Mitchell, Tarantino and Cress et al. provide motivation for multiple rows of products. Totes, such as those taught by Mitchell et al. clearly would have been capable of stacking multiple rows of products. The combination as applied to claims 66 and 67 teach that it would have been obvious to have employed totes such as those taught by Mitchell for the purpose of employing spin drying. Since the combination already teaches processing (washing and drying) without removing the product from the tote, to modify the combination and therefore wash multiple rows of de-cored products stacked on top of one another would have been obvious to one having ordinary skill in the art, for the purpose of maximizing the efficiency of the washing and drying process.

9. Claim 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 1, 2, 5, 7, 16-19, 22, 66-69, above and in further view of Terry (US 5711980).

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Claim 24 recites that the temperature during processing achieves a product temperature of between 33-38°F. Brown '850 does not teach the particular operating temperature. Nevertheless, it is noted that Mitchell et al. teaches using a temperature of between 33-40°F (Column 5, Lines 5-7) for the washing of the produce but is silent in teaching maintaining the temperature of between 33 and 38°F throughout the entire process. Terry teaches maintaining a "cool" temperature (Column 1, Lines 43-51) throughout the processing of the produce for the purpose of preserving the marketable life of the produce (Column 1, Lines 25-39). On column 2, lines 17-19 and lines 30-34, Terry teaches a constant temperature throughout processing of 35°F. Terry teaches that maintaining a lowered temperature through processing aides in extending the useful marketable life of produce therefore it would have been obvious, based on these teachings, to operate the processing equipment of modified Mitchell et al. at 35°F for the purpose of extending the useful marketable life of the produce.

10. Claims 33-36, 40-41, 70-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 1, 2, 5, 7, 16-19, 22, 66-69, above and in further view of Hougham (US 5316778).

Claims 33 and 70 are essentially rejected for the reasons given above with respect to claims 1 and 66.

Claims 33 and 70 differs from the previously applied combination in specifically reciting the step of pre-washing the de-cored product. It is noted that the claim does not limit when the product is pre-washed.

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In any case, Hougham teaches the step of pre-washing de-cored lettuce leaves by first spraying with a solution of fresh water and chloride to remove natural latex milky substance generated from the leave (Column 2, lines 17-23). Hougham further teaches that the first wash adds moisture to the leaves and increases the shelf life of the vegetable and also kills bacteria while also removing dirt and debris which accumulated on the product due to field handling (column 2, lines 24-29). After the pre-washing, Hougham subsequently places the tote within a washing step at the processing facility to remove insects, dirt and other debris which remains attached to the product following field processing (column 2, lines 40-42). Therefore, it would have been obvious to one having ordinary skill in the art to modify the combination and pre-wash the de-cored lettuce, as taught by Hougham for the purpose of removing the dirt and debris which accumulated during field handling. Also, such a modification would have extended the shelf life by adding moisture and also providing a bactericidal effect.

Further regarding the step in claim 33 of transporting the tote to a processing facility, it is noted that applicant's have not defined what can be considered a processing facility. As an example applicants indicate in the abstract that the processing facility includes a washing tank. It is noted that, via a conveyor, Brown '850 teaches transporting the loaded tote to a processing facility and then immersing the tote in a washing fluid and also conveying the tote through the washing fluid, as discussed with respect to claim 69.

Regarding the limitation in claim 33 of loading the tote into a spin dryer without re-loading, it is noted that Brown '850 already teach using a vibration clapper

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(paragraph 0046) while the products are still in the tote. Mitchell et al. has been relied on as discussed above with respect to claims 66 and 67 to teach using a spin dryer. To therefore modify the combination and place the products in a spin dryer would have been an obvious matter of choice and/or design to one having ordinary skill in the art, since the combination already teaches moving from washing to drying without reloading. Regarding claim 34, which recites packaging the dried de-cored product, Mitchell et al. teaches packaging after drying (figure 1, item 20). To therefore modify the combination and package after drying would have been obvious to one having ordinary skill in the art, for the purpose of marketing/selling the de-cored, washed, dried and packaged produce.

Claim 35 recites that the washing fluid is one of chilled water, chloride and an anti-bacterial agent. Mitchell et al. teach using chilled water (Column 5, Lines 1-12), and the Brown references similarly teach using an aqueous wash.

Regarding claim 36, the combination already teaches transporting using a conveyor belt. Regarding the limitation of covering an open top end of the tote with a second conveyor belt and maintaining registration of the tote with both conveyor belts, it is noted that Mitchell et al. teaches the concept of maintaining registration of the produce with a first and second conveyor (Figure 9B) and using the two conveyor belts to prevent bobbing of the produce while submerged. Since Brown '850 teaches using a submersion tank, to therefore modify the combination and employ a second conveyor belt on top of the tote would have been obvious for the purpose of preventing bobbing of the tote.

Regarding claim 40, Brown '850 teaches a conveyor that would transport the tote through the washing tank. Regarding claim 41, since Brown '850 teaches cleaning the decorated products, by placing into a washing tank (i.e. submersion) the flow of washing fluid would have been directed at the de-cored ends for the purpose of cleaning the produce.

Claim 71 is rejected for the reasons given above with respect to claim 66. Claim 72 is rejected for the reasons given above with respect to claim 67.

11. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 33-36,40-41,70-72 above, and in further view of Fox et al. (US 2644473).

Claim 37 recites that the conveyor belt has latches or stops to maintain registration of the tote with the conveyor belt. It is noted that Mitchell et al. teach using two conveyor belts for pressing the product there-between against both conveyors for the purpose of maintaining registration of the product with the conveyor. Additionally, Fox et al. teach a basket that is inter-engaged with the conveyor (figure 9). Figure 9 show the basket recessed into the conveyor and with cross bars that extend across the protrusions in the conveyor for holding the basket thereon. To therefore modify the combination and provide some securement structures for retaining a container on the conveyor belt would have been obvious to one having ordinary skill in the art, for its art recognized and applicant's intended function.

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12. Claims 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 33-36, 40-41, 70-72, above, and in further view of Hougham (US 5316778), Busta (US 3814820), Crossett (US 2666711), Bell et al. (US 1708253) and Alameda (US 5130152).

Claims 38 and 39 are rejected for the reasons given above with respect to claims 8 and 9.

13. Claims 1, 2, 4, 5, 7-10,12, 15, 16-17, 18, 19,22, 33-41 and 66-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchell et al. (US 6112429) in view of Hougham (US 5316778) and in further view of Brown (US 20030126850), Brown et al. (US 6298865), Garcia, Jr. et al. (US 6626192) and Tarantino et al. (US 20040187465 A1). Cress et al. (US 6223502) and Levey et al. (US 5566695) has been relied on as evidence.

Regarding claim 1, Mitchell et al. teach cutting a product from a stalk (column 1, lines 19-25), removing the core (column 3, lines 31-32). Mitchell et al. also teach cleaning a product cut from a stalk.

Claim 1 differs in specifically reciting that the product is first de-cored, then placed in the tote and then cleaned.

Brown '850 teaches de-coring a product and then placing the product in a tote and then cleaning and drying the product within the tote, without removing the product from the tote. As a result, the washing, drying and transporting of the cut product is clearly simplified. Regarding de-coring, Brown '850 teaches that coring the lettuce in

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the field eliminates most of the waste leaves and cores, thereby reducing the bulkiness of the product during shipment. Brown '850 further teaches that coring of the lettuce means only 100 percent usable lettuce leaves are shipped when the lettuce head is cored in the field (paragraph 0008). In addition, Brown '850 teaches that first cutting and coring the lettuce allows the lettuce to bleed excess sap prior to washing. As a result, the sap or latex exudates is remove from the product, thus resulting in a more appealing lettuce product (Paragraph 0009). Brown '850 also teach washing the de-cored head, as discussed above. Based on these teachings, it would have been obvious to one having ordinary skill in the art to remove the core of the lettuce of Mitchell et al., prior to washing for the purpose of removing the undesirable latex exudates and further for only providing 100 percent usable lettuce leaves. Such a modification would have provided a more appealing product while also reducing the bulkiness of the product and also removing any accumulated dirt or exudates from within the core. Brown et al. '865 also further teaches spraying a washing fluid through the holes (column 2, lines 35-41) thus removing any additional accumulated dirt or remaining latex exudates within the core. It is noted that Garcia Jr. et al. also teach removing the core for easier cleaning of lettuce (column 4, line 64 to column 5, line 10). Tarantino et al. also teach removing the core and retaining the whole head nature of the lettuce (paragraph 0046).

In addition, further regarding cleaning while in the tote, Hougham teaches that it has been conventional in the art to place de-cored leafy vegetables into containers. After placing into the containers, the leafy vegetables undergo a washing and drying

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and subsequent packaging step. Nevertheless, Hougham teaches extending the storage life of the vegetables by minimizing the factors that result in spoilage, such as microbiological decay, and handling damage (column 1, lines 25-27). To prevent handling damage, Hougham teaches placing the vegetables into a container which is then conveyed through a washing and drying system (column 2, lines 16-22 and lines 30-39). Based on these teachings, Hougham provides the broad teaching of keeping the food product within the container while washing, for the purpose of minimizing the handling by the operator. Such a modification would further have extended the storage by preventing damage caused during handling of the produce from out of the container and into a washing cycle and then back into the containers for drying. Even further, Brown '850 further teaches that it was conventional to wash de-cored produce wherein the de-cored produce is placed into a container, washed within that container and transported in that same container (paragraph 0045 and 0046). Based on these teachings, it would have been obvious to one having ordinary skill in the art to wash the produce within the container for the purpose of minimizing the handling of the produce so as to prevent additional handling damage between processing steps.

Claim 1 further differ in specifically reciting wherein the de-cored product is placed in a first row which faces a first side of the tote and the washing fluid flows through the de-cored end of each product to an opposite end of each product. It is noted, however, that Mitchell et al. teach placing the produce in a first and second row, which face a first and second side of the container, See figure 2B. It is further noted that Brown '850 simplified processing of produce, such as lettuce by placing initially

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placing the de-cored product in a tote and then washing and drying while in that tote.

Brown '850 further teaches that the nozzles that are used to wash the de-cored produce are aligned in a row (Paragraph 0043). The reference to Cress et al. has also been cited as additional evidence of the conventionality of the concept of containers that hold items to be washed which are also dried in the same container without removal of the items. Levey et al., show in figures 1 and 2, the conventionality of aligning items to be washed into rows and wherein the "cores" would face the washing jets. Garcia, Jr. similarly, show washed produced being aligned into rows (see figures), although not in containers. To therefore align the de-cored produce into rows so as to correspond with the aligned rows of washing nozzles would have been obvious to one having ordinary skill in the art, for the purpose of providing adequate washing of the cored produce. Regarding the limitation of the cleaning fluid flowing through the de-cored end of each product to an opposite end of each product, it is noted that Brown '850 and Brown et al. '865 teach wherein the washing fluid flows through the de-cored end of each product. Since the references are performing the same de-coring process as applicant, the washing fluid would also have flowed through this de-cored end to an opposite end of the products.

Regarding claim 2, the combination teaches cutting the core to remove the undesired sap as well for facilitating easier cleaning, as taught by Brown '850, Garcia Jr. et al., for instance. Regarding claim 4, the combination teaches processing the steps occurring at a processing plant. The combination teaches cleaning rows of de-cored produce within a container. Regarding claim 5, the whole head nature of the produce is

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retained. Regarding claim 7, the combination teaches using a device to remove the core (see Tarantino et al.). This limitation reads on any device used to remove the core.

Claims 8 and 9 differ from the prior art in specifically reciting the step of pre-washing the cut product prior to placing in the tote and further comprising the step of spray washing at least one end of the product before placement in the tote.

Hougham teaches the step of pre-washing de-cored lettuce leaves by first spraying with a solution of fresh water and chloride to remove natural latex milky substance generated from the leave (Column 2, lines 17-23). Hougham further teaches that the first wash adds moisture to the leaves and increases the shelf life of the vegetable and also kills bacteria while also removing dirt and debris which accumulated on the product due to field handling (column 2, lines 24-29). After the pre-washing, Hougham subsequently places the tote within a washing step at the processing facility to remove insects, dirt and other debris which remains attached to the product following field processing (column 2, lines 40-42). Both Mitchell et al. and Hougham teach harvesting lettuce at a field and placing it into a container. Nevertheless, based on the teachings of Hougham, it would have been obvious to one having ordinary skill in the art to pre-wash the lettuce of modified Mitchell et al., as taught by Hougham for the purpose of removing the dirt and debris which accumulated during field handling. Also, such a modification would have extended the shelf life by adding moisture and also providing a bactericidal effect. Although Hougham discloses pre-washing after placing the lettuce within a tote, to pre-wash prior to placing into a tote would have been within the knowledge of the ordinarily skilled artisan for the purpose of forgoing the need to

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drain the container of the dirt and residue from the washing. Such a modification would have also loosened dirt and other contaminants, thus resulting in efficient cleaning during the washing step. This is a similar concept to pre-scrubbing dirty dishes before placing in the dishwasher so as to ensure complete cleaning of the dish. Even further, since Hougham teaches the concept of pre-washing, whether the pre-wash was performed prior to or after placement within the tote would not have provided a patentable feature over the prior art, since Hougham teaches the concept of pre-washing for the removal of the accumulation of dirt, a bacteriocidal effect and extending the shelf life of the product by adding moisture prior to processing the lettuce at a processing plant.

Regarding claim 10, the combination teaches spray washing the product after placement in the tote and prior to transfer to a transport vehicle.

Regarding claim 12, Mitchell et al. modified by the prior art teach washing, drying and packaging and further teach maintaining the whole head nature of the product. It is further noted that the tote employed by Mitchell et al. appears similar to the tote of shown in applicant's drawings, and thus would have retained the whole head nature of the de-cored product.

Regarding instant claim 15, based on the size of the totes (Figure 2A, 2B) it would have been obvious to the ordinarily skilled artisan to place multiple rows of the de-cored product on top of each other for the purpose of maximizing the efficiency of the washing and drying process. In any case, Mitchell et al. teach that it was known to wash multiple rows, as shown in figure 9B. Mitchell et al. also teach wherein the

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products are stacked in the totes to dry (Column 2, lines 10-12). The prior art to Brown and Hougham already provides motivation for washing while in the tote. To therefore stack multiple rows on top of each other in the tote, for washing, would have been obvious for the purpose of maximizing the efficiency of the washing and drying process.

Regarding instant claim 16, Mitchell et al. teaches an immersion tank (See Abstract and Column 1, Lines 44-48; column 3, lines 21-54) including a cleaning fluid, as recited in instant claim 17.

Regarding instant claim 18, Mitchell et al. teach flow of cleaning fluid directed toward the ends of the product. The combined teachings of Mitchell et al., Hougham, Brown ('850) and Brown et al. ('865), as discussed above teach washing de-cored produce in a tote and the flow of washing fluid directed toward the de-cored ends of the product. Regarding instant claim 19, Mitchell et al. teach a conveyance device to carry the tote of modified Mitchell et al. (See Figure 9B) through the cleaning tank.

Regarding instant claim 22, Mitchell et al. teach placing a tote comprising washed whole head produce into a spin dryer (Column 3, Lines 37-46). The spin drying of Mitchell et al. maintains the whole head nature during drying and after drying said whole head produce is packaged (Column 3, Lines 37-46).

Claim 33 is rejected for the reasons discussed above with respect to claim 1 and claims 8-12 and 16-17. Regarding claim 33 and the recitation of immersing the totes in a washing and drying without reloading the tote after washing, Hougham teaches placing leafy vegetables into containers and pre-washing, washing and drying without removing the vegetables from the container, for the purpose of preventing handling

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damage, as discussed above. It is noted that Mitchell et al. already teaches the particular type of dryer, such as a spin dryer. Based on these teachings, it would have been obvious to one having ordinary skill in the art to keep the produce of Mitchell et al. within the tote that was used to harvest the product and subsequently wash the produce within the tote for the purpose of minimizing the handling by an operator.

Regarding instant claim 34, Mitchell et al. teach packaging the produce (Column 3, Lines 34-35) after drying. Regarding instant claim 35, Mitchell et al. teach using chilled water (Column 5, Lines 1-12), and the Brown references similarly teach using an aqueous wash. Hougham teaches using chlorinated water (see abstract). Regarding instant claim 36, Mitchell et al. teaches the concept of maintaining registration of the produce with a first and second conveyor (Figure 9B). Mitchell et al. teach using the two conveyor belts to prevent bobbing of the produce while submerged. It would have been obvious to the ordinary skilled artisan that the fact that a tote has been used in modified Mitchell et al. would not have prevented bobbing of the tote. As used in modified Mitchell et al. the tote would also have been expected to “bob” depending on the amount of produce within the tote and the number of openings within the tote and the pressure of the water as well as the level of immersion. Therefore, to use a second conveyor, as taught by Mitchell et al., on the top of the tote would have been obvious for the purpose of securing the tote while the tote is submerged.

Regarding instant claim 37, the combined teachings of the prior art are silent in explicitly reciting a latching mechanism for securing the tote with the conveyor belt during the step of transporting. Nevertheless, to use stops, for instance to maintain the

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totes on the conveyor belt would have been obvious to one having ordinary skill in the art to prevent the totes from falling off of the conveyor belt. This would further have been obvious since such an incident would have resulted in stoppage of the entire automated process of washing the totes. Thus, based on this knowledge it would have been obvious to provide a securement mechanism that keeps the totes of modified Mitchell et al. in communication with the conveyor belts. Such a modification would have prevented the totes from slipping off of the conveyor belts due to the forces imparted onto the tote as a result of washing.

Claims 38 and 39 are rejected for the reasons given with respect to claims 8-9. Claim 40 is rejected for the reasons given with respect to claims 1 and 16. That is, modified Mitchell et al. teaches washing de-cored produce while in the tote and Mitchell et al., further teaches immersing the produce for cleaning (column 5, lines 21-54). Again, claim 40 differs in maintaining the produce within the tote throughout the entire washing process. Mitchell et al. already teaches immersing the produce. The prior art to Brown and Hougham teaches the concept of maintaining the de-cored produce within the tote during washing, drying and transporting, and to therefore use the tote throughout the washing process would have been obvious for the reasons given above with respect to claim 1. Regarding claim 41, Brown '850 teaches a transport mechanism which carries the totes comprising the produce into a flow of washing fluid directed at the de-cored ends of the produce, as discussed above.

Claims 66 and 71 differs from the prior art in specifically reciting wherein two rows of the de-cored product are placed within the tote. As discussed above, the prior

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art to Mitchell et al. already teaches two rows of produce being washed (figure 9B) but does not teach maintaining these rows in totes. The prior art to Brown and Hougham teaches maintaining the produce within totes while washing. Maintaining the produce in rows would also have been obvious for the reasons given with respect to claim 1. To therefore have two rows, side by side, would not have provided a patentable feature over the prior art. Regarding claims 67 and 72, the prior art already teaches washing fluid directed to two sides of the tote. For instance Brown '850 teaches spraying from the top and bottom, and Mitchell et al., teach spraying from the left and right sides. Claim 68 is rejected for the reasons given with respect to claim 19. Regarding claims 69 and 70, modified Mitchell et al. teach washing and drying the de-cored produce while being maintained within a tote and also immersing the tote, for the reasons given above with respect to claims 1 and 16. The claim 69 differs in reciting wherein the first side of the tote faces a direction of conveyance, while the de-cored product also faces the first side. In light of the rejection under 35 U.S.C. 112, second paragraph, it is noted that Brown '850 and '865 teach fluid flow from above and below the tote, and Mitchell et al. teach fluid flow from the left and right sides of the tote. However, Brown' 850 also teaches that the nozzles may be arranged in rows or any arrangement that adequately washes the trimmed produce. To therefore re-orient the produce so that the de-cored ends face a first side which is in the direction of conveyance would have been an obvious matter of design.

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14. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 1, 2, 4, 5, 7-10,12, 15, 16-17, 18, 19,22, 33-41 and 66-72, above, and in further view of Herrera (US 20030217650), for the reasons given above in paragraph 7.

15. Claim 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 1, 2, 4, 5, 7-10,12, 15, 16-17, 18, 19,22, 33-41 and 66-72 , above and in further view of Terry (US 5711980), for the reasons given above in paragraph 9.

Response to Arguments

16. As a result of the cancellation of claim 3, the rejection of claim 3 under 35 U.S.C. 112, first paragraph has been withdrawn. The rejection of claims 1-10, 12, 15-19, 22, 24, 33-41 and 66-72 under 35 U.S.C. 112, second paragraph for the limitation “a product” and “placing a first row of the de-cored product” has also been withdrawn as a result of the amendment to the claims. Upon reconsideration, the rejection of claim 69 under 35 U.S.C. 112, second paragraph has been withdrawn.

17. ON pages 12-13, applicant urges the specific limitations in each of the references to Mitchell, Garcia, Hougham and Brown I do not teach. It is noted that applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of

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references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

18. Applicant urges that Mitchell does not placing de-cored products into a tote and aligning the de-cored ends against a side of the tote. It is noted that applicant's arguments are not commensurate in scope with the claim. Claims 1, 66, 69 and 70-72 does not recite that the de-cored products are placed against a side of the tote but rather that the de-cored ends are facing a side of the tote. Claim 33 recites placing against a side of the tote, and Brown '850 already teaches this limitation since the de-cored ends can face the bottom spray nozzles, for instance.

19. Applicant urges that Garcia does not disclose a method for washing "de-cored" products. It is noted that on column 4, line 64 to column 5, line 10, Garcia teaches decoring the product and spraying water to clean the produce.

20. Applicant urges that Hougham fails to provide any disclosure to support the rejection of the present claims because products are not arranged in any order and are not de-cored and the washing fluid does not pass through the product in any particular direction.

These arguments have been considered but are not deemed persuasive. It is noted that Hougham has been relied on as a secondary teaching of the pre-washing steps, and then subsequent washing in containers, as discussed above. It is further

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noted that Hougham still teaches that the core has been removed from lettuce and therefore provides motivation for pre-washing and then washing de-cored lettuce.

21. Applicant urges that Brown '850 fails to disclose that the de-cored produce are arranged in any particular order in the totes and there is no disclosure that the washing fluid necessarily flows from the de-cored end to an opposite end. This argument has been considered but is not deemed persuasive. It is noted that the art taken as a whole clearly teaches de-coring the product and spraying from above and below to wash. Additionally, Garcia Jr et al. teach removing the core of lettuce for easier washing of the lettuce (column 4, line 64 to column 5, line 10). Tarantino et al. also teach removing the core and retaining the whole head nature of the lettuce (paragraph 0046). Regarding the tank, as recited in claims 33 and 69, it is noted that by teaching submersion, Brown '850 clearly teaches an immersion tank. By submerging in a tank, the washing fluid would also have flowed through the de-cored ends of each product. Regarding claim 69, Brown '850 further teaches using a conveyor to guide the tote into the washing section, as discussed above. As discussed above, the combination teaches removing the core and thus the fluid would have flowed through the de-cored product.

22. In response to applicant's argument that the examiner has combined an excessive number of references, reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention. See *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6434951 discloses harvesting lettuce and placing the lettuce in bins or containers and transporting to a processing facility and further processed. US 5888570 discloses washing fruits and vegetables while the fruits and vegetables are in containers (column 1, lines 12-25). US 4033461 discloses washing a basket of vegetables (Figure 1). US 6514349 discloses a first washing step. US 5957044 discloses treating pre-packed boxes of produce (figure 1). US 6196237 discloses washing cored lettuce head (figure 1). JP11290049 discloses washing vegetables in a machine wherein the vegetables are in a mesh container. US 6224929 discloses a basket for washing comestibles.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VIREN THAKUR whose telephone number is (571)272-6694. The examiner can normally be reached on Monday through Friday from 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571)-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Steve Weinstein/

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Primary Examiner, Art Unit 1794

/V. T./
Examiner, Art Unit 1794